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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,889	03/16/2001	Peter Zhu	JOHNA.060A	7456

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EXAMINER

CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 08/13/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/810,889

Applicant(s)

ZHU ET AL.

Examiner

LaToya I. Cross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13, 34 and 35 is/are rejected.
- 7) ☒ Claim(s) 9 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 844
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on May 23, 2003 was filed after the mailing date of the first Office action on March 31, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Objections***

Examiner suggests a slight modification of claim 1 so that step (c) parallels steps (a) and (b). For example, --(c) oxidizing any unreacted MBTH in the test sample; (d) reacting the azine and any oxidized MBTH in the test sample to produce a formazon; (e) producing a second color different from the first color if the concentration of said aldehyde is lower than the point of interest;--. Then current steps (d) and (e) would be re-sequenced.

In claim 2, "the color" is somewhat confusing as applicants have previously recited a first color and a second color.

Claims 8 and 9, 8 and 10 and 8 and 11 would be clearer if applicants set forth the steps in a single claim and identified where, within the sequence identified in claim 1, the steps fit in. Examiner also suggests that parallel claims be set forth for when the fixed volume is taken before and taken during reaction with MBTH. Further on that point, claims 10 and 13 could be specific to each of the parallel claims -- MBTH for before and  $\text{FeCl}_3$  for during.

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Claim 34 should specify that the aldehyde is —equal to the point of interest— instead of “sufficient”.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8, 10, 11, 13, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opp in view of Iannacone et al. and applicants' admitted prior art on page 1, lines 10-28 of the specification.

Opp teaches a process and kit for the determination of concentrations of aldehydes. Specifically, Opp teaches employing a particular amount of a reagent to react with a point of interest amount of an aldehyde in a sample. Then Opp teaches employing a second reagent to react with any left over aldehyde in the sample to produce a color change, indicating an amount of aldehyde in excess of the point of interest amount of aldehyde in the sample. In examples I and II, Opp demonstrates how the disclosed method can be used to determine amounts of aldehyde less than, and in excess of the point of interest, with development of a purple color, or no development of a purple color.

Opp however, does not teach the particular reactants claimed, namely MBTH and an oxidant.

Iannacone, et al., as well as applicants' admitted prior art, teach a two component reactant system for testing of aldehydes, namely MBTH and an oxidant (see column 4, lines 7-9, of Iannacone, et al., specification, lines 10-14). Iannacone, et al. specifically teach that color formation varies depending on the concentration of aldehyde in the sample (column 5, lines 32-36), with green color developed at no aldehyde, changing to shades of blue upon increasing concentrations of aldehyde.

It would have been obvious to one having ordinary skill in the art to modify the method of Opp to employ the reagent system of Iannacone, et al. and applicants' admitted prior art for the reasons given by Iannacone, et al. and applicants – namely stability and high sensitivity of the MBTH/oxidant reagent system. As to the development of two different colors, depending on the concentration of the aldehyde

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with respect to the concentration of the point of interest, it would appear that such a modification would be within the skill of the artisan. Opp teaches distinct responses, development of color and absence of such development representing different sides of the point of interest (presumably, the point of interest must be with either of these responses). Iannacone, et al. teach that the color developed varies with respect to the concentration of aldehyde. It would be within the skill of the ordinary artisan to determine, through routine experimentation, a first color representing an excess of aldehyde and a second color, representing less than a point of interest of aldehyde in the modified method of Opp.

With respect to claims 6 and 7, Opp teaches addition of both reactants simultaneously, but provides for sequential reaction by the form of each reactant. With respect to claim 7, it would have been obvious to one having ordinary skill in the art to modify the modified method of Opp to provide for sequential introduction of the reactants in order to avoid early dissolution of the second reactant, which may lead to improper color development.

With respect to claims 10, 11 and 13, both Opp and Iannacone, et al. teach separation of the two reagents to avoid premature reaction. Both incorporate one reagent into a solid and one in solution. Iannacone, et al. specifically teach putting the MBTH on an adsorbent material. It would have been obvious to one having ordinary skill in the art to separate the two reagents by providing one on an adsorbent material in order to avoid premature reaction of the reagents, as well as stability and ease of handling.

***R sponds to Arguments***

Applicant's arguments, see paper no. 7, filed May 23, 2003, with respect to the rejection(s) of claim(s) 1-13 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Opp in view of Iannacone, et al. and applicants' admitted prior art.

***Allowable Subject Matter***

Claims 9 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest employing the particular membranes recited in the measurement of aldehydes in a two reactant process.

***Conclusion***

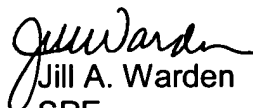
Applicant's amendment and submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on May 23, 2003 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Jill A. Warden at telephone number (703) 308-4037.

  
Jill A. Warden  
SPE  
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